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REPORT NO. 9

Cotton Fiber and Processing Test Results

CROP OF

1973



**Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38117 December 21, 1973**

This is the ninth of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. These reports are published by the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, Memphis, Tennessee.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton Division laboratories of the Agricultural Marketing Service, USDA, report fibers from Southwest short staple samples tested, to date, are stronger than through the same period a year ago. Yarns spun from these samples have lower appearance grades. Yarn imperfections are fewer than last season. Average spinning potential yarn number is lower.

Averages for all medium staple samples tested through December 14 show longer, and coarser fibers than a year ago. Yarns spun from these samples show lower appearance grades. Imperfections were greater in samples tested to date. Spinning potential yarn number is lower than a year ago.

Southeastern medium staple samples tested show coarser and slightly weaker fibers this season. Shirley Analyzer nonlint content is higher. Yarn imperfection counts are higher than a year ago at this time. Average spinning potential yarn number is lower.

South Central medium staple samples tested, to date, show longer, coarser and slightly weaker fibers. Yarns spun from these samples show approximately the same processing test results as a year ago.

Southwest medium staple samples have about the same fiber qualities as measured through this date last year. Picker and card waste is less. Yarn shein strength is weaker than a year ago. Yarn appearance grades are lower with more imperfections showing up this season. Average spinning potential number is lower.

Medium staple samples from the West show fibers to be longer, more uniform, coarser and considerably stronger than last season. Yarns spun from these samples are stronger. Appearance grades are lower, however, than a year ago.

Averages for all long staple samples tested show coarser and weaker fibers at zero gage strength. Yarns spun from these samples have higher appearance index number for both carded and combed yarns. Imperfections are fewer than last year. Average spinning potential yarn number is lower.

Southeast long staple samples are coarser and weaker than a year ago. Yarn strength is weaker. Yarn appearance index numbers are higher this season. Yarn imperfections are fewer. Average spinning potential number is lower.

South Central long staple samples tested through this period are shorter, coarser and weaker than a year ago. Comber waste is higher this season. Yarn strength is weaker. Appearance grades are higher and the imperfection count is lower. Spinning potential number is lower.

Long staple samples tested from the West are coarser and stronger than last season. Comber waste is less. Yarns spun from these samples are stronger and have higher appearance index number. Yarn imperfections are less than last season. Average spinning potential yarn number is higher.

Extra long staple, American Pima, samples from the West are coarser than last season. Yarn appearance grades are higher and imperfection count is less this season.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 14, 1973

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike	Fiber strength		S A nonlint waste	P & C waste		Yarn quality		Spin. potent.	
		2.5% span	50/2.5 unif.	fine- ness	Zero gage	1/8" gage		Skein str.	Appear- ance	Imperf- ections	Index No.	22s Carded Yarn	Yarn No.
No.				No.									
Short Staple:													
Southwest													
1972	27	0.97	45	4.4	83	20	3.2	6.1	94	119	24	47	
1973	37	0.97	46	4.5	84	21	3.4	6.5	93	109	18	43	
Medium Staple:													
Southeast													
1972	57	1.07	45	4.3	83	23	2.9	6.2	104	103	16	66	
1973	42	1.08	46	4.5	82	22	3.6	6.2	103	106	22	62	
South Central													
1972	146	1.08	46	4.3	83	23	2.8	6.2	104	109	19	64	
1973	136	1.10	45	4.5	82	22	3.1	5.8	102	108	19	62	
Southwest													
1972	32	1.07	45	4.4	83	22	3.2	6.2	102	119	23	62	
1973	37	1.07	45	4.4	82	22	2.8	5.7	97	100	25	57	
West													
1972	52	1.09	45	4.4	90	24	2.6	5.4	110	121	17	66	
1973	48	1.13	47	4.6	94	26	2.2	5.4	119	106	18	68	
U.S. Average													
1972	287	1.08	45	4.3	85	23	2.8	5.9	105	113	18	65	
1973	263	1.10	45	4.5	84	23	3.0	5.8	103	106	20	62	
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality
 2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States through December 14, 1973
1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results					
		Span	Length	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality		Strength	Appearance	Imprfctns
				Unif	Mike				carded	combed			
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.
									22s	22s	Carded	Combed	Yarn
Long Staple:													
Southeast													
1972	17	1.12	44	4.3	85	24	3.6	8.4	16.9	107	124	116	24
1973	16	1.12	45	4.6	82	23	3.9	8.7	16.9	104	120	117	15
South Central													
1972	4	1.16	44	4.0	88	24	4.2	8.8	16.0	116	131	100	20
1973	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	19
West													
1972	15	1.17	44	3.6	91	25	2.5	7.2	15.6	126	145	91	26
1973	11	1.16	45	3.8	92	27	2.4	7.2	14.9	136	152	99	13
U. S. Average													
1972	36	1.14	44	4.0	88	24	3.2	8.0	16.3	116	133	97	24
1973	33	1.14	45	4.3	86	24	3.4	8.2	16.3	115	132	111	16
Extra Long Staple:													
West													
1972	14	1.45	32	3.6	98	32	2.6	7.7	17.7	63	111	109	11
1973	8	1.46	31	3.9	99	33	2.8	7.8	18.0	65	122	120	8
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5	5
										2(50s)	2(50s)	2	2
												3	3

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification		Fiber Test Results						Processing Test Results - Carded Yarns														
Sample Number	Grade	Digital Fibrograph	Mike	Fiber Strength	Elongat'n 1/8"	S.A. Non-lint	Color	Raw Stock	P & C	Strength	Elongation	Appearance Index	Imprfect'n's	Spin. Potential								
No	Name & Code	Stpble	2.5% span	Zero	1/8"	74	Gra	Yel	Waste	8s or 22s	8s or 22s	8s or 22s	8s or 22s	8s or 22s								
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	Pct	No	No	No								
SOUTHWEST AREA																						
CENTRAL TEXAS																						
AVALON	3 LM	51	31	1.04	46	5.0	84	21	6.5	4.3	3	6.9	296	96	7.5	6.4	120	110	19	16	48	
NORTHWEST TEXAS																						
ANSON	2 SLM	41	31	0.96	46	4.2	78	20	8.2	2.8	1	3	6.8	294	89	8.7	7.2	120	90	21	16	46
BULA	2 MID LT SP	32	29	0.93	45	4.0	86	22	6.9	2.9	1	3	6.0	273	93	8.4	6.8	130	120	18	11	38
BURKBURNETT	1 SLM LT SP	42	32	0.99	45	4.7	79	21	7.0	4.0	2	3	6.0	279	88	7.6	6.8	120	90	29	25	41
EDMONSON	1 MID	31	29	0.87	48	4.8	86	20	6.4	2.3	1	3	6.8	261	90	7.5	5.0	120	100	9	8	32
ELDORADO	2 SGO	61 2/31	0.98	45	4.2	79	20	7.6	5.4	4	4	8.6	275	84	8.0	7.0	120	100	26	24	47	
HALE CENTER	1 MID	31	29	0.87	48	4.9	81	17	6.9	2.4	1	3	6.6	258	77	7.3	6.2	130	110	8	8	33
HART	1 MID LT SP	32	30	0.90	46	4.3	80	19	6.5	4.4	2	4	6.4	273	78	7.5	5.8	130	110	14	16	34
RALLS	1 SLM	41	31	0.99	45	4.4	83	21	7.5	2.8	1	3	6.3	317	102	8.7	7.3	120	90	21	18	56

1/ Cotton stuck to processing rolls
 2/ Reduced from 51 because of bark

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification		Fiber Test Results						Processing Test Results - Carded Yarns					
Sample Number	Grade	Digital Fibrograph	Mike	Fiber Strength	S.A.	Color	P & C	Strength	Elongation	Appearance Index	Imperfect's	Spin. Potential	
No	Name & Code	Staple span	2.5%	Unif	Elon-gat'n 1/8"	Raw Stock	Waste	8s or 22s or	8s or 22s or	8s or 22s or	8s or 22s or		
		32s	In	Pct	Rdg	G/tex	Pct	No	No	Pct	No	No	
SOUTHWEST AREA--(Continued)													
NORTHWEST TEXAS--(Continued)													
2	STAMFORD	31	30	0.39	45	3.9	89	21	202	3.1	1	3	5.9
2	SLM	41	32	0.99	47	4.9	83	22	100	2.7	2	3	6.8
1	MID LT SP	32	29	0.87	49	5.0	85	19	STRIPPER 31	2.8	2	4	7.4
									1/	261	75	7.3	5.7

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification				Fiber Test Results								Processing Test Results - Carded Yarns										
				Digital Fibrograph		Fiber Strength		S.A.		Color		Strength		Elongation		Appearance Index		Imperfections				
No	Grade	Sample Number	Stprie	2.5% span	Unif.	Mike Zero	1/8" Gage	Non-Intnt	Raw Stock	P & C Waste	22s or 20s or 12s	22s or 20s or 12s	22s or 20s or 12s	22s or 20s or 12s	22s or 20s or 12s	22s or 20s or 12s	No	No	No	No		
No	Name & Code	32s	In	Pet	Bag	Msi	G/tex	Pct	Pct	Pct	Lbs	Lbs	Pct	Pct	Pct	Pct	No	No	No	No		
SOUTHEAST AREA																						
ALABAMA																						
CURA	3 LM	51	34	1.10	45	4.06	78	19	7.8	3.03	3	6.0	91	26	6.3	4.3	100	90	8	7	60	
PRATTVILLE	3 SLM	41	35	1.10	46	4.01	88	24	6.1	1.9	2	3	4.8	115	38	6.4	4.7	100	80	16	16	68
GEORGIA																				100		
BOSTWICK	3 SLM LT SP	42	33	1.01	47	4.08	83	21	6.0	3.5	3	6.4	91	26	5.8	3.6	120	90	13	8	49	
TENNILLE	3 SLM LT SP	42	35	1.10	46	4.01	82	21	6.4	4.7	3	3	5.7	99	31	5.9	4.4	90	70	31	27	60
NORTH CAROLINA																				100		
LAURINBURG	3 LM	51	35	1.07	47	4.04	90	22	7.0	6.3	3	2	7.5	106	35	6.6	4.8	80	70	37	22	62
SOUTH CAROLINA CALHOUN FALLS																				100		
3 LM	51	34	1.09	48	4.03	81	22	6.4	5.0	3	2	7.3	102	32	6.5	4.3	110	90	20	13	62	
SOUTH CENTRAL AREA																				100		
ARKANSAS																				100		
ALTHEIMER	3 SLM	41	35	1.09	45	4.00	82	22	8.6	3.0	2	2	5.3	111	35	6.9	5.2	120	70	20	17	69
BAY	3 SLM	41	34	1.06	43	4.02	80	20	7.4	3.5	2	2	6.0	95	27	6.6	4.3	90	70	17	13	53
CRAWFORDVILLE	3 LM	51	34	1.08	43	3.05	80	21	8.3	4.8	2	1	6.6	101	31	6.8	4.5	100	80	19	13	58
LEACHVILLE	3 SLM	41	34	1.04	42	3.05	83	20	6.4	4.0	2	2	6.3	95	29	6.2	4.5	90	60	22	18	52
LEACHVILLE	3 SLM	41	35	1.06	44	3.08	79	21	7.4	3.0	2	2	5.5	97	29	6.4	4.7	100	70	23	21	55

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification		Fiber Test Results										Processing Test Results - Carded Yarns										
Sample Number	Grade	Digital Fibrograph	Fiber Strength	S.A.	Color	Strength	Elongation	Appearance Index	Imprfect's	Spin.												
No	Name & Code	Stple 2.5% span	Mike Zero Gage	Non-Lint	P & C Waste	22s or 50s or 22s or 50s or 22s or 50s or 22s or 50s or	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	Potential												
32s		In	Pct	Rdg	Color	Strength	Elongation	Appearance Index	Imprfect's	Spin.												
32s		In	Pct	Rdg	Raw Stock	P & C	22s or 50s or 22s or 50s or 22s or 50s or 22s or 50s or	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	27 tx 12 tx 27 tx 12 tx 27 tx 12 tx	Potential												
SOUTH CENTRAL AREA--(Continued)																						
ARKANSAS--(Continued)																						
OSCEOLA	3 SLM	41	34	1.09	43	4.3	85	20	5.9	3.6	2	2	7.2	90	23	5.6	3.7	100	70	18	16	50
VICTORIA	3 LM	51	35	1.09	43	2.9	81	23	7.4	5.7	2	2	8.9	107	34	7.3	5.2	70	60	39	33	67
WILSON	3 SLM	41	35	1.12	44	3.4	80	22	8.3	3.8	1	2	5.7	114	37	7.5	5.3	90	80	18	12	70
LOUISIANA BUNKIE	3 LM	51	34	1.08	45	4.5	75	19	7.0	3.1	4	3	7.0	84	25	5.9	4.0	100	80	14	13	56
MISSISSIPPI ARKLE	3 SLM	41	36	1.14	44	4.3	79	22	8.0	2.3	2	2	4.8	110	37	7.2	5.2	100	80	10	9	71
BELZONI	3 LM	51	34	1.12	42	3.8	77	21	8.3	3.8	3	2	6.1	106	35	6.9	5.1	110	80	17	11	71
EDWARDS	3 LM	51	34	1.05	46	4.8	78	21	6.9	2.7	3	3	7.4	87	24	6.0	3.8	100	80	19	14	53
FOREST	3 SLM LT SP	42	34	1.09	43	4.4	79	21	7.9	2.8	3	3	5.9	91	27	6.5	4.3	100	70	11	8	54
GREENWOOD	3 LM	51	34	1.03	44	3.8	82	22	7.0	3.5	3	2	6.1	104	32	6.8	4.7	100	80	23	16	61
GUNNISON	3 SLM	41	35	1.15	44	4.2	77	22	8.2	2.5	2	2	5.1	104	34	7.1	5.0	100	70	19	11	67
INDIANOLA	3 LM	51	34	1.06	41	3.4	82	21	7.3	4.8	3	3	7.5	96	30	6.3	4.5	100	70	19	14	59
INDIANOLA	3 SLM	41	34	1.09	46	5.1	83	21	7.0	2.5	2	3	5.2	100	31	6.6	4.5	110	90	13	9	59
LELAND	3 LM	51	35	1.10	45	4.5	76	21	7.4	5.7	4	2	7.9	101	31	6.6	4.9	100	70	23	18	62
LYON	3 LM	51	35	1.07	45	4.3	80	21	6.9	3.1	3	2	6.3	94	28	6.2	4.4	100	70	26	19	50

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(continued)

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results								Processing Test Results - Carded Yarns										
No	Grade	Stple	Name & Code	Digital Fibrograph	Strength	Fiber	S.A. Elong.	Color	P & C	Strength	Elongation	Appearance Index	Imperfections	Spin.								
		2.5% span	22s	Unif.	Mike	Zero Gage	1/8" Gage	Raw Stock	Waste	22s or 50s	22s or 50s	50s or 22s or 27 tx	22s or 50s or 27 tx	50s or 27 tx	Potential							
WEST	AREA							No	No	Pct	Pct	No	No	No	No	No	No	No				
ARIZONA	BUCKEYE	2 MID	35	1.09	45	4.8	91	24	5.8	1.4	0	3	5.3 ^{1/}	102	29	5.7	4.1	120	90	5	6	50
CALIFORNIA	BAKERSFIELD	3 SLM	41	1.11	45	4.3	91	25	6.4	2.3	1	3	5.3	116	40	6.0	4.4	90	70	16	15	62
BAKERSFIELD	3 SLM	41	35	1.09	44	3.5	89	26	6.1	2.7	1	3	5.2 ^{1/}	118	40	6.0	4.5	80	70	23	12	71
BAWLEY	2 MID	35	1.12	45	4.9	90	25	6.3	2.1	0	2	6.6 ^{1/}	101	30	5.8	4.0	100	80	19	15	55	
BUTTONWILLOW	3 MID	31	36	1.10	45	4.5	93	26	5.4	1.8	0	3	4.5	120	40	5.8	4.5	110	80	11	10	65
CHOCCHILLA	2 SLM	41	36	1.11	48	4.5	98	27	5.5	2.0	1	3	5.5	126	42	5.8	4.5	100	90	13	9	74
COALING	2 MID	35	1.13	48	4.6	94	26	5.6	1.5	1	3	4.7	116	40	5.9	4.4	110	90	8	8	75	
DOS PALOS	2 SLM	41	36	1.13	47	4.2	96	26	6.0	1.8	2	2	4.7	129	45	6.0	4.3	110	80	10	7	84
HANFORD	2 SLM	41	35	1.11	45	4.3	98	25	5.4	1.8	2	3	5.3 ^{1/}	120	40	5.6	4.3	90	70	13	9	73
KFRMAN	2 SLM	41	36	1.11	48	4.3	97	27	5.5	2.3	1	3	4.8	125	44	6.2	4.6	100	80	10	8	79
MENDOTA	2 SLM PLUS	40	36	1.14	46	4.4	98	27	5.5	1.6	1	3	5.9	131	45	6.3	4.8	100	80	14	12	80
TULARE	3 SLM	41	36	1.09	43	3.8	95	26	5.3	2.5	2	2	4.9 ^{1/}	124	40	5.9	4.4	100	70	11	7	70

^{1/} Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

1/2 Cotton stuck to processing rolls
100 percent selected for tests, less than 100 percent in the area.

1/2/ Cotton stuck to processing rolls
100 percent selected for tests, 1

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification				Fiber Test Results								Processing Test Results - Carded Yarns								Spin. Potential		
No	Name & Code	Grade	Sample Number	Digital Fibrograph		Fiber Strength		Elongat'n 1/8"		S.A. Non-Lint		Color Raw Stock		P & C and Comber		Elongation		Appearance Index		Spin. Potential		
				2.5% span	Unif.	Mike	Zero Gage	1/8"	Gage	Gra	Yel	22s or 20s or 27 tx	22s or 20s or 27 tx	12 tx	22s or 20s or 27 tx	12 tx	22s or 20s or 27 tx	12 tx	No	No		
SOUTHEAST AREA																						
ALABAMA 3 LM	51	34	1.03	46	4.3	76	21	310	8.2	3.7	2	2	10.6	98	31	6.6	5.2	110	90	10	9	58
GEORGIA 3 SLM	41	33	1.011	43	4.7	83	22	310	6.8	2.4	2	3	7.4	99	27	6.1	4.0	120	100	5	5	3
GEORGIA 3 SLM LT SP	42	34	1.013	44	4.5	82	23	310	6.0	4.0	3	3	9.4	97	28	6.1	4.5	110	70	15	10	54
NORTH CAROLINA 2 SLM	41	35	1.012	46	4.9	84	23	310	6.4	2.6	2	3	7.8	105	35	6.2	4.2	130	100	7	6	72
SOUTH CAROLINA 3 LM	51	35	1.016	41	4.2	79	23	310	6.6	5.2	3	3	9.2	103	34	6.4	5.2	110	100	2	2	2
SOUTH CENTRAL AREA																						
TEXAS 3 SLM	41	34	1.03	44	4.3	83	23	310	7.1	2.7	2	2	8.7	95	27	6.2	4.1	120	90	11	6	54

* Comber Waste and Combed Yarn Data

Table 4--Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973--(Continued)

✓ 100 percent selected for tests, less than 100 percent in the area

* Comber Waste and Combed Yarn Data

Table 5 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results						Processing Test Results - Combed Yarns							
				Array Length		Fiber Strength		S.A. Elong'n 1/8"		Color		Strength		Elongation		Appearance Index	
No	Grade	Staple	UQL	CV	Mike	Zero Gage	1/8"	Non- Lint	Raw Stock Gra	P & C Waste Yel	Comber Waste	50s or 12 tx	80s or 12 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx
32s	32s	In	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	Pct	Pct	Pct	Pct	Tbs	Pct	Pct	No
WEST AREA																	
ARIZONA																	
SAFFORD	4	44	1.53	29	3.9	100	36	7.2	4.3	4	5	9.3	17.2	70	37	5.4	4.8
1																120	120
NEW MEXICO																	
LAS CRUCES	3	44	1.45	30	4.0	98	30	7.0	2.3	4	5	8.2	18.0	61	35	5.4	4.8
1																120	120
WEST TEXAS																	
EL PASO	3	44	1.41	34	3.7	102	33	7.3	3.2	4	5	7.8	18.8	63	34	5.2	4.6
2																120	120
EL PASO	3	44	1.43	33	3.6	99	34	7.1	2.5	4	5	7.9	18.9	63	35	5.3	4.7
2																120	120
PECCS	3	44	1.43	30	3.8	97	31	8.1	2.2	4	6	7.9	17.4	66	36	5.5	4.8
2																120	120

* 100 percent selected for tests, less than 100 percent in the area

